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METHODS OF HAYING

By J. E. Larson, Field Agronomist, O. A. C.

(Continued from last week)

The Canadian Field pea is another legume which is grown in certain sections of the Valley and Eastern Oregon. The same things will apply to this crop as the vetch except that it should be cut about the time the peas in the lower pods are at the table stage. In no case allow the vetch or peas in the lower pods to get over-ripe. The leaves lose off readily and they contain a large percentage of the food nutrients of the whole plant.

Alfalfa is one of the main crops of the irrigated sections of Eastern Oregon. Much of this hay must go on the market; hence, the stage of cutting is most important. The general tendency is to allow the alfalfa to get too mature before cutting it. The universal rule of instruction for cutting alfalfa is when one-tenth is in bloom. This represents very nearly the proper stage. However it is not always safe to depend on this sign. Sometimes insect pests attack the blooms and the blooms do not come out. Again in some sections, late spring or early summer frosts may check the alfalfa crop and it should be cut but the indications do not show in the bloom. A safer plan is to match the basal shoots at the crown of the plant and cut when they are from one and one-half inches long. Do not wait until these become long enough that they are clipped off by the mower. If this indication of time to cut is watched for you can readily see that, regardless of the condition of the bloom the alfalfa will be cut at the proper stage. Farmers who are growing alfalfa for market are prone to allow the alfalfa to get too mature in order to get the greatest tonnage. It is true that in the last stages of growth the plant takes on dry matter or increased weight rapidly but in total tonnage for the season usually there will be more alfalfa from the fields that are cut at the proper stage. At any rate, the man who has some stock can use the last crop or aftermath for pasturage or hay to good advantage and cut his market hay at a better or earlier stage.

The grasses should be cut at or just before the blooming stage. Timothy is sometimes cut when it has reached what is called the "second bloom"; that is, after the blooms have dropped. The better stage, especially for market hay, is to cut when it is in full bloom; for feeding purposes, it does not deteriorate rapidly or materially if left a little longer. The rye grasses and orchard grass should be cut before they reach the blooming stage as they become woody and unpalatable if left longer. The same is true of the Tall (cat) Grass. Red Top can stand slightly longer in the field than the rye grasses but it too loses in palatability if allowed to get to ripe. Cut at a fairly early stage for best class of hay. While a little tonnage may be gained by allowing grasses to get more mature, an actual loss is sustained in the fact that they become woody and unpalatable and of lower feeding value.

A great deal of grain hay is made throughout the state, these grains being wheat, oats rye and cheat. The general tendency is to allow these grain crops to get to mature before cutting for hay. It is almost impossible to get both grain and hay. What is gained in grain is more than offset by what is lost in the forage of the plant. These hays should be properly cut just between the milk and soft dough and stiff dough stage, the nutriment passes rapidly into the grain as it nears ripening. This means that the stalk and leaves will lose in feeding value and lose materially in palatability which counts for much in hay to be fed to stock. With grains more than any other hay crop is there need for changes in the practices followed out on the average farm.

CURING HAY

The quality of hay depends much on the making. The finest green hay product is often ruined in curing. It is good to follow the old adage "Make hay while the sun shines" but even this sunning process can be overdone. The curing or converting of the green product into hay is made up of three processes—drying, fermentation and bleaching. The first two mentioned, of course, are necessary but we cannot make hay without having some bleaching take place. The ideal conditions for making hay could be without any direct sunshine if that were possible. The product commonly known as "brown hay" made by the European countries give evidence that fermentation helps the quality of the hay. While this brown hay is not very good for looks, the stock relish it greatly. We can overcome the problem of over-drying and sunning the hay by curing it in the windrow and in the hay cock. In this way we can keep the natural green color as far as possible. It is a better market product and food color and quality are very closely associated. The legume hays, such as vetch, clover, alfalfa, etc. are damaged materially if allowed to lie in the swath too long. The leaves on these plants and small stems dry very rapidly and drop off. As much as forty percent of the nutritive value may be lost by the small stems and leaves dropping off of the alfalfa plants. Do not let the hay burn out in the hot sun when it should be in the windrow or hay cock.

Rains ruin a great deal of hay in the Western Oregon section each year. Much more is badly damaged by rain than by sun burning. Aside from discoloring and injuring the market value of the hay, rain also materially affects the feeding value of the product. Clover and other legume hays are especially susceptible to damage in feeding value from the rain. As much as twenty-five to forty percent of the protein-feeding value of the hay can be leached out with cold water. The Colorado Experiment Station found that alfalfa hay ex-

posed to rain in the field for fifteen days lost practically fifty percent or more of its protein. The undamaged hay contained 18.7 percent while that which was exposed to the weather only had 11 percent. Another experiment was run to determine the loss due to rain on grass hay. Part of the field was left in the cock and part in the swath, during a rainy spell of eighteen days. At the end of this time, the hay in the swath had lost 38.8 percent of its digestible protein while that in the cock lost only half that much. This experiment and the other show that the value of hay cured in unfavorable weather depends largely upon the manner or system followed out in curing the hay. More and more it is evident that the price of hay should be governed by the feeding value. This would do much to discourage the production of low grade hay. Losses by exposure of meadow hay amount to 18 to 20 percent of the dry substance.

In general then the legumes should be cut in the morning after the dew is off and raked up in windrows as soon as the leaves are thoroughly wilted. The curing of these crops should not be too long delayed and the sunning does not improve the quality. In order to facilitate matters if the crop is very heavy, the tedder should be used as soon as the leaves are wilted and before they become too dry and are knocked off by this machine. If we do not have the tedder and where the crop is moderately heavy, the next best solution is to cure the hay in windrows and cocks. Usually these crops should be raked the same day that they are cut and then allowed to lie in the windrow until the middle of the day the next day they can be put into cocks. By putting the hay up in cocks at this time of day much warm air is entrapped in the shock and they will go on and cure much more rapidly than if put up with dew or the moisture on them. Two or three days in small cocks should cure clover hay enough for the mow. Be sure that all outside moisture—rain or dew—is off and little danger will be experienced in the hay burning in the mow or getting dusty, providing the crop was cut at the proper stage. If, for any reason, the hay cannot be put into the mow when it is dry enough it should at least be put into larger shocks. These small cocks might be taken two or three of them and put into one large shock. Then if the shock is raked off well and topped out, it will turn considerable water. Another common device used for saving the hay in the field is to put on artificial caps. These may be made from heavy, unbleached muslin or from a light ducking. They are made three by three feet which is large enough to cover the average shock. The heavy muslin covers are inexpensive and are very effective in keeping the water out of the hay. Do not oil or tar these covers for they will not allow the air to circulate through and the hay will spoil just underneath the covers. When a wind of hay taken in the hands and twisted up will not exude any moisture it is ready for the mow. Never put hay in the mow or stack when it has rain or dew on it, no matter how little.

Certain materials are sometimes put on the hay when it is put in the mow or stack to aid in curing, as it is supposed. Salt and lime are sometimes used. These materials stop the growth of fungus, molds and mildews and stops fermentation and in that way have a value. Salt makes hay more palatable. A small amount of salt or lime sprinkled on clover hay when it is being put in the mow stack will be a good practice. However it does not perform everything that is usually attributed to it. Alternate layers of straw will help to cure out and keep damp hay.

MARKET HAY.

More attention should be given to the question of growing marketable hay. Much of the land that is now being farmed each year to a grain crop might be put down on a good permanent grass hay for market hay. The market demands hays that are not badly mixed and are free from weeds and much attention is given to the time at which it was cut and also to the curing. Hays that have been cut too green and allowed to heat in the mow or stack are not considered of very great value and the market price is cut accordingly. On the other hand hays which have been over-cured are termed "dry hay" and are not desirable on the market. In one instance, as much as two hundred pounds of loose hay remained in the car after the bales had been removed, this hay being brash and fluffy would fall out of the bales and of course would not make a good, marketable product. Both of the above-mentioned grades of hay are not so good in feeding value and do not have the palatability and the aroma that is sought for in the market. All too many ranchers of Oregon are buying hay. Hay at the average price which is paid here, is a good proposition. We should arrange our crop rotations so that they will have hay crops. To be sure, we should exercise judgement in selecting grasses and other hay crops suited to our conditions. We should finally pay more attention to cutting and curing of our hay. It would add millions to the income of the farmers of Oregon annually if the present hay crop was properly handled.

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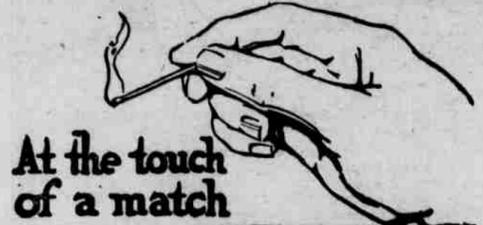
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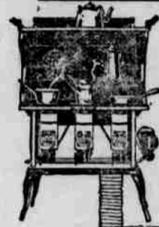
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